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ABSTRACT

The integration of recommendations, ideas, theories, and/or research results on the use of educational media in social studies with ideas, theories, recommendations, and research results concerning active learning in social studies is the focus of this paper. Educational media refers to software or hardware or both. Active learning refers to students using both mental and physical abilities and doing, creating, and participating. The students focused upon are secondary school students. The paper concludes with an explanation of an original theory of educational media developed for this study. (Author/DB)

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Active Learning with Educational Media in Secondary Social Studies

or

"You Can Lead a Horse to Water but the Only Water that Gets into His Stomach Is What He Drinks"

(Rothkopf in Slate, 1988, p.5)

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Abstract

In this paper, I try to relate and integrate recommendations, ideas, theories, and/or research results on the use of educational media in social studies with ideas, theories, recommendations, and research results concerning active learning in social studies. Educational media refers to either software or hardware of both. Active learning refers to students using both mental and physical abilities and doing, creating and participating. Students are secondary school students. I conclude the paper with an explanation of my theory of educational media..

We've Come a Long Way, Baby?

In 1912, Thorndike recommended pictures as labor saving devices in instruction (in Clark, 1983, p. 445). And in the following year, Edison optimistically predicted that books would soon be obsolete; that it would be possible to teach every branch of human knowledge with the motion picture; and that the school systems would be completely changed in ten years (in Saettler, 1968).

More recently, McLuhan, in 1969, gloomily complained that our educational system was dying and outdated and totally unsuited to the needs of the television generation (in Cuban, 1986). Yet Mary Alice White, Director of the Electronic Learning Laboratory at Teachers College, Columbia University, in a tone more reminiscent of Edison's optimism, contends that technology will:

> 1) alter the learning process; 2) create a new psychology of learning; 3) change learning content; 4) alter educational environments; 5) enable almost anyone to learn almost anything; and, 6) provide a curriculum of choice. (in Lavin, 1987, p. 6)

While schools have attempted to incorporate educational media into the curriculum by buying equipment and software, classrooms of the 90's do not reflect the technological developments of our society. Many studies (Becker, 1985; Schug, 1988; Ehman & Glenn, 1987) and simple observations show that social studies teachers, in particular, rarely or never use, or rarely use or integrate appropriately, the equipment or programs. Teachers who have used educational media probably have experienced what I have - that most filmstrips, slide presentations, films, videos, instructional TV programs and even computer programs put students (and teachers) to sleep.

Have you ever watched what happens when a teacher tells a class they are going to view a videotape, filmstrip, or a TV show? The students tune out, catch up on lost sleep, or pass notes around about the Saturday night party. After a few minutes on a computer, students react the same way. Regardless of time spent in preparation for the presentation or use, unless the teacher has found an exceptional program, which most are not, he/she will lose the students. And if you've ever observed a teacher using these programs, you know that he/she is probably napping, correcting papers or daydreaming.

My assertion is that teachers use educational media in ineffective ways. Students need to be actively involved in their own learning and as long as they are passive receivers, as with the sit and watch or with the sit, input, watch, then sit, input and watch some more use of educational media, they will suffer terminal (sorry, no pun intended) boredom and will learn little.

Active Learning

Active learning is not a new idea. In 1931, the Hadow Report proposed that curriculum concentrate on activity and experience rather than on the knowledge students should acquire (Hendrikson, 1984). John Dewey (1931) stressed learning from experience and suggested that teachers find projects and problems that fit the learner's capabilities and which have a long enough time span to allow students to raise new questions and produce new ideas. He posited that a student should be a doer, not a receiver and should be both intellectually and overtly active.

More recently, Piaget stressed that "experience is always necessary for intellectual development . . . that the subject must be active, must transform things and find the structure of his own actions on objects" (in Hendrikson, 1984, p. 3). In a study of the effects of active participation on student learning, Pratton and Hales (1986), who define active participation as a "result of a deliberate and conscious attempt on the part of a teacher to cause students to participate overtly in a lesson" (p. 21), concluded that it is an efficient teaching method and that it enhances student learning. And Poppenhagen (1981), who studied two learning designs for a field-based graduate course, claims that experiential/ active learning concepts in the course design resulted in measurable differences in perceived quality of learning.

Social Studies Today

What would you see if you observed most social studies classrooms today? Probably you would see the same thing you would have seen in 1900, and certainly what you would have seen twenty years ago - a teacher lecturing and students listening, or appearing to listen, and/or taking notes. Project SPAN (a study of Social Studies Priorities, Practices, and Needs), in 1982, reported that most teachers were still teaching social studies in the traditional way and that teaching modes rarely if ever included inquiry, discovery, simulations, or educational media (Hendrikson, 1984).

From an eight year study on schooling, Goodlad (1983) noted a preponderance of listening, reading textbooks, completing workbooks and worksheets, taking quizzes, but few activities requiring problem solving,

group work, or students planning and executing a project. Goodlad claimed that, especially in social studies classrooms, "boredom is a disease of epidemic proportions" (1984, p. 242).

Project SPAN recommended that social studies teachers provide students with at least one specific long term learning experience, such as a group research project, each year (remember Dewey?); and that learning should focus on active acquiring, organizing and using information and on increasing social participation rather than concentrating on memorizing facts. In addition, according to SPAN, teachers should take advantage of programs, such as global studies, local history, and community studies, that invite use of active learning (Hendrikson, 1984).

Active Learning and Social Studies

It is easy to find descriptive reports of active (participatory) learning in social studies. Some articles describe actual lessons, some are suggestions of what teachers can do or should be doing. Suggested or described activities, which authors connect to or define as active learning, include re-enacting battles, researching primary sources, making presentations, performing, role-playing, manipulating moveable maps, analyzing case studies, conducting mock trials, participating in opinion polls and surveys, taking field trips, and taking part in competitions. These reports give the following composite (probable or actual) results: better grades, more enthusiasm, development of critical thinking skills, total class participation, and increased student motivation, empowerment and involvement.

Finding reports of research studies on active learning in social studies is, however, more difficult. The studies which are available

report positive results. Phillips and Faris (1977) concluded that students will probably learn more if given the chance to do so in nontraditional ways. In their comparative study of two groups of senior government students (same teacher), one group learned in the traditional lecture, discussion mode, while the other group used innovative techniques including independent study and internships. The active learning students surpassed the traditional students in achievement after the first few weeks.

And in a study of retention abilities of eighth and ninth graders after a geography field trip, MacKenzie and White (1982) found that students who had generated and processed their own information on the field trip showed marked superiority in retention of knowledge over the field trip students who were given information by the teacher.

But where does educational media fit in an active learning model?

Educational Media in Classrooms

Much of the literature of the 60's and 70's stressed the lack of teacher use of educational media. From teacher responses, Jackson (1968) concluded that the lack of teacher use of educational media was the result of: a) the change that occurs in the classroom environment during use; b) the lack of teacher control of the media and program; c) the teacher's need to be flexible; and d) a dislike of technology's mechanistic approach to teaching. Wolcott (1969) posited that the use of educational media in a classroom changes the teacher's role and that the ensuing confusion, tension and frustration changes the classroom environment

and leads to the teaching of unintended lessons when the teacher appears bored, leaves the room or ignores the media program.

In the 1980's, educators were still trying to determine why teachers had not adopted educational media. Cuban (1986) mimicked Jackson as he maintained that media change the interpersonal relationships between the teacher and student and that teachers are content with chalk and textbooks because they (chalk and textbooks), unlike the newer educational media, allow the teacher to be flexible and to develop personal rela onships with the students.

Educators have tried also to determine the educational value of media. In his review of research on learning from media, Clark (1983) concluded that there are no learning benefits gained from using any specific medium to deliver instruction; and, in fact, he contended that most meta-analyses of media comparison studies suggest that media do not influence learning under any conditions and that teachers can perform most of the same methods the newer media use.

In reference to the value of media in social studies, Hodgkinson (1988) claims that when teachers use educational media in history (social studies) classes, students watch and listen and may write notes or discuss, but do not create anything. Hodgkinson believes that this passive use of educational media develops only the skills of memorizing and note taking and is little different from a teacher lecturing while students take notes.

While there is probably some truth in all of these explanations and assertions, it is time for educators to change their questions about educational media. Instead of asking how a specific feature of medium might affect or activate a particular cognitive process, or

which medium teaches what to whom in the most effective way, or why teachers do not use educational media, or when a teacher should use educational media, educators need to ask how a teacher can use media in effective and creative ways to: a) achieve learning goals; b) meet the changing needs of learners in a technological society; c) make learning active; and d) retain the flexibility and personal relationships of a traditional classroom.

The Connection

In a summary of twenty-three case studies of uses of educational media, Schramm (1967) concluded that you cannot just pour content into listeners or viewers and that the goal of using educational media should be to stimulate activity learning. After additional experiments, Schramm (1977) concluded that while students can learn from any media, media instruction is best that involves students actively.

Adams and Hamm (1988), Sless (1981), and Considine (1982) have added a new dimension to the study of media use. They suggest that teachers not only should teach students how to read, interpret, and evaluate mediated information, but also should teach students to use the equipment for selecting, gathering, producing and conveying knowledge. That is, students should produce their own mediated material because that process will: a) improve their understanding of visual messages; b) clarify the relations of the new technologies and visual culture to the educational process; and c) at the same time make the students' learning active.

Hodgkinson (1988) agrees. Students in history classes, she says, should make their own historical record in sound and vision; they should

make a radio or TV program, a videotape, slide show or computer program. (AHA! - the connection - active learning/educational media/social studies).

Active Learning/Educational Media/Social Studies

Trying to find descriptions, reports or research of active uses of educational media in social studies classrooms is a challenge. For that reason, I am including examples of active uses of media in other content areas. The examples I use could be adapted to social studies classes. I describe the results and effects of these active uses of media at the end of the descriptions.

1. Ferguson (1989), who was searching for ways to engage students actively, decided to have his fourth grade class help him write a computer game for use at school. The students decided the game would be about a space creature lost in time in Indiana and the goal would be to get him home. The students researched historical events, wrote the script, wrote letters to local historical societies, used the computer to write directions for the game, added graphics, and, when finished, applied for a copyright for Where Am I, When Am I?

2. The AVID (Active Video Instructional Development) project at Wellesley College instructs students in the use of video equipment with which they make measurements in the physics lab and out in the field. Students set up their own experiments and record and quantify their observations. This program is now in most of the physics courses at Wellesley, is part of the Summer Enrichment Program at Wellesley, and is also the basis for outreach for high school students. Dissemination has started across the curriculum and to other institutions (Ducas, 1989).

Ducas believes that these activities connect the students' learning to their experience and thus motivate and reinforce the strictly theoretical components of the course. He sees the most important aspects of AVID as students learning the basics of video technology while being actively involved in their own learning.

3. As President of MultiMedia Classrooms, Inc, in East Lansing, Michigan, D'Ignazio (1988) encourages teachers to create collaborative learning environments with technology and to have students create innovative mediated material such as newspapers and movies. He describes the Knowledge Network - fifty schools linked in a telepublishing network - which allows teachers and students to link up and send innovative lessons they have created via modems and telephone lines.

4. In a three month experiment, the BBC Open University in Great Britain loaned five schools video camera equipment and asked them to experiment with uses. The teachers produced a multimedia package of ideas called Get It Taped! The Video Camera in School. One teacher said, "If I had to choose I would rather have a video camera in school than a computer - I have seen what it can do for the children's confidence and the stimulus it gives to their work throughout the curriculum . . ." (Harben, 1989, p. 38). Harben claims that this reflects the enthusiasm of most of the students and teachers who took part in the experiments.

The final tape is sixty minutes long and shows how to use a video camera and describes possible video projects. Each instructional unit is related to, and is based in, a curriculum area to give students and teachers concrete examples of use.

5. McConnell (1987) describes a program called RSVP - Research/ Script/Video Program. The purpose of the program is to help students develop research skills as they make their own video productions. Students select a topic, research the material, write scripts and then videotape. They place a book on a music stand and using a macro lens on the camcorder, they read the script while taping the picture and then repeat for other books. Students then playback the film to the class.

6. At the Lincoln, Sudbury (Massachusetts) Regional School District, in one Spanish class, video production makes up approximately 40% of the course work. Through student written, directed and produced videos, students do rather than study about language. Other Spanish classes in the District use these videos as part of their curriculum material (Gandolfi, 1987).

7. A history teacher in the Cincinnati Country Day School, looking for a way to teach geography along with history, learned to use hypercard, the Apple Computer hypertext program for the Macintosh, and challenged her students to create their own hypermedia documents in a study of Africa. Students used a computer scanner to transfer a map of Africa to the computer screen and then used library atlases to create a stack (chunks) of information for each country; thus the students built their own Africa (Trotter, 1989).

8. Bragg and McWilliams (1989) involved their two geography classes and their communities in North Carolina and Alabama in a geographic video exchange. They designed the project to provide students with an opportunity to apply creatively and actively the five fundamental themes of geography -

location, place, human environment interactions, movement and regions - to their local area and to allow others to see their productions. Student groups researched the specific geographical themes, located sites to illustrate their themes, carried on disucssions, made selections, researched the site in depth, wrote the scripts and planned the film. The class decided the sequencing, the script writer became the director, and the students made the videotape. The students swapped their tapes; a real estate company purchased a copy to use for interested customers; and the towns held premier parties to show-case the videos.

9. And from my own experience, from 1984-1987, my secondary social studies students were involved in the National History Day Program (NHDP), one purpose of which is to promote student competency and interest in carrying out original research. Of the four program categories - paper, project, performance and media - the media was the most popular. Students, who worked in groups of from two to five, produced videos, dissolve slide/tape shows, standard slide presentations, computer programs and overhead projection displays on the designated theme. These programs became instructional material for future history classes.

Results of Active Learning with Educational Media

Results from my Experience

The student experiences in the NHDP support the findings of Pratton and Hales (1986) that in addition to enhancing student learning, active participation also forces students to spend more time on task. Compared to academically similar students in previous classes using alternative instructional methods, the NHDP students showed dramatic increase in

involvement, learning, comprehension and motivation. The students learned how to find, interpret, analyze, organize, use and present information in creative ways; they learned skills related to everyday technologies; and in fact, they created their own visual curricula. Seniors began to print in their yearbook that the most memorable part of their high school years was participation in the NHDP, and each year more students tried to enroll in the NHDP classes even though the work involved was extraordinary and relentless. Adams and Pasch (1987) and Keller (1987), in their assessments of the NHDP, describe similar results of active learning with media.

Results from other Reports

The number in parentheses represents the number of authors (out of the eight I included) who mention this particular result. This does not mean others did not see the same result, just that they did not mention it.

1. Affective results. The authors report an increase in student motivation (5), pride of authorship and accomplishment (4), confidence (3), enthusiasm and excitement (4), involvement and interest (4).

2. Intellectual/cognitive results. Students became competent at doing research (7), making decisions (5), organizing material and time (7), presenting, explaining or communicating ideas and information (7), thinking logically and critically (6), problem solving (6), writing clearly and logically (7), categorizing (4), finding new data and developing new ideas (3), and analyzing material (3).

3. Technical/production skills. All authors found that students learned how to create and produce media presentations and, depending on which media were involved, to write script, use lighting, use the technological equipment, speak in front of a camera, edit, construct a set, produce audio, manage and direct other students, and to work cooperatively as a team member.

4. Content knowledge. All authors claim that the content knowledge students acquired was more comprehensive, and more comprehended, than what comparable students acquired using other instructional methods.

5. Conclusions. All authors claim that the students took responsibility for their own learning and that students became active producers instead of passive receivers. In composite, the authors conclude that: a) students became active learners; b) teachers were able to integrate educational media into the classroom without giving up their flexibility or personal relationships with students; c) students learned technological skills and other skills they can use in their outside life; d) students were able to work on a project, as Dewey and Project SPAN suggested, for an extended period of time; e) students provided the class (and future classes) with mediated material for the curriculum; and f) the process renewed and increased the students' interest in learning and increased their comprehension and achievement in the content area. To produce media presentations and programs, the authors argue, students have to actively participate in the learning process and have to have a clear understanding of whatever they are presenting and using (subject and technology) to produce something others will understand.

A Theory of Educational Media (or thinking out loud)

To repeat, educators and researchers need to ask new questions about educational media. Instead of asking how a specific element of a mediated message or a particular attribute of a medium might affect the cognitive process or which medium teaches what in the most effective way for whom under what conditions, they should be asking how teachers can use educational media to affect cognitive processes positively, to achieve learning goals and to meet the needs of the students in the most effective way.

Olson's (Clark & Salomon, 1986) theory of instructional means argues that different kinds of activities develop different mental skills and that there is a difference between the knowledge one acquires and the skills that are involved and developed during the process. According to this theory, then, while some skills may result from specific media attributes, more, in fact most, skill activation will result from the way in which the student actively uses the educational media.

According to the cognitive paradigm, what a student brings to the learning environment and experience influences the way the student experiences and sees the stimuli and the environment. This experience in turn changes the student's schemata which in turn influences future learning (Clark & Salomon, 1986). This reciprocal interaction between the learner and his/her perceived environment can affect students who use educational media actively in their learning - what the student believes about producing media presentations can affect what learning occurs as much as the actual process of producing a media presentation. What might

students believe about producing media presentations? That they, the students, are in control, that they can be active, that they have choices, and that someone will see their work i.e. that they, the students, are important.

Wittrock's version of the cognitive paradigm, his generative model (Clark & Salomon, 1986), says that what the student learns is what he constructs. While Wittrock probably is referring to the construction of schemata, I see a very concrete, literal interpretation of the model. A student who can construct not only a cognitive relationship hetween subject matter, its concepts and and his/her background knowledge and experience, but also a physical product will comprehend more and learn more skills.

I call my educational media/learning theory the PAGE - Practical, Active, Generative, and Effective - theory.

1. Practical. Students who use educational media actively to create and develop presentations and projects will learn practical skills in the technologies of their society. They also will learn the practical skills, which all students need when they leave school, of communication, leadership, and cooperation.

2. Active. As Dewey said, to reach their potential, students must be active in their own learning. Through an active use of educational media, the students not only will learn content, but in the process of developing presentations, they will learn the skills of researching, analyzing, interpreting, organizing data, writing, and solving problems.

3. Generative. By developing their own media presentations or programs, students will construct their own meanings and interpretations and thus form cognitive relationships between the material's content, their finished products and their own backgrounds and experiences. This new schemata, in turn, will affect future learning.

4. Effective. If the goals of social studies, and of learning in general, are for students to be able to acquire, interpret, analyze, organize, comprehend and use data, to learn practical skills, and to be productive citizens, then this practical, active, generative model is effective - it works.

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